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DECLARATION FOR PATENT APPLICATION

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name:

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled *Time-Reversal Block Transmit Diversity System for Channels with Intersymbol Interference and Method*, the specification of which claims priority to Provisional Application Serial No. 60/197,306 filed April 14, 2000, and which application was filed on April 11, 2001, as application Serial No. 09/833,543, and

I hereby state that I reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose to the Patent Office all information known to me to be material to patentability as defined in 37 CFR §1.56.

I hereby claim foreign priority benefits under Title 35, United States Code, §119 of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed:

Prior Foreign Application(s)			Priority Claimed	
<u> </u> (Number)	<u> </u> (Country)	<u> </u> (Day/Month/Year Filed)	<u> </u> Yes	<u> </u> No

I hereby claim the benefit under Title 35, United States Code, §120 of any U.S. application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior U.S. application in the manner provided by the first paragraph of Title 35, U.S. Code, §112, I acknowledge the duty to disclose to the Patent Office all information known to me to be material to patentability as defined in 37 CFR §1.56 which occurred between the filing date of the prior application and the national or PCT international filing date of this application:

<u>60/197,306</u> (Application SN)	<u>April 14, 2000</u> (Filing Date)	<u>Pending</u> (Status)
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Direct all telephone calls to Aldo J. Test at (650) 494-8700. Address all correspondence to:

Aldo J. Test
FLEHR HOHBACH TEST ALBRITTON & HERBERT LLP
Suite 3400, Four Embarcadero Center
San Francisco, California 94111-4187

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Title 18, United States Code, §1001 and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Full name of first
joint inventor:

Erik D. Lindskog

Inventor's signature:

Erik Lindskog

Date:

June 7, 2001

Residence:

Sunnyvale, California 94087

Citizenship:

Sweden

Post Office Address:

674 Kirkland Drive, #6, Sunnyvale, California 94087

Full name of second
joint inventor:

Arogyaswami J. Paulraj

Inventor's signature:

AJP

Date:

June 7, 2001

Residence:

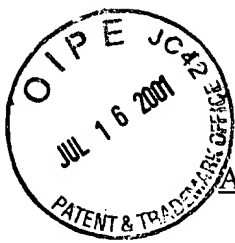
Stanford, California 94305

Citizenship:

U.S.

Post Office Address:

59 Peter Coutts Hill, Stanford, California 94305



POWER OF ATTORNEY BY ASSIGNEE
AND EXCLUSION OF INVENTOR/S UNDER 37 C.F.R. §1.32

To the Commissioner of Patents and Trademarks:

The undersigned assignee of the entire interest in application for letters patent Serial No. 09/833,543, filed April 11, 2001, entitled: TIME-REVERSAL BLOCK TRANSMIT DIVERSITY SYSTEM FOR CHANNELS WITH INTERSYMBOL INTERFERENCE AND METHOD, and having the named inventor(s):

Erik D. Lindskog and Arogyaswami J. Paulraj

hereby appoints the following attorneys to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith; said appointment to be to the exclusion of the inventor(s) and his (their) attorney(s) in accordance with the provisions of 37 C.F.R. 1.32: Harold C. Hohbach, Reg. No. 17,757; Aldo J. Test, Reg. No. 18,048; Donald N. MacIntosh, Reg. No. 20,316; Edward S. Wright, Reg. No. 24,903; David J. Brezner, Reg. No. 24,774; Robert B. Chickering, Reg. No. 24,286; Richard F. Trecartin, Reg. No. 31,801; Steven F. Caserza, Reg. No. 29,780; Michael A. Kaufman, Reg. No. 32,988; Edward N. Bachand, Reg. No. 37,085; R. Michael Ananian, Reg. No. 35,050; Maria S. Swiatek, Reg. No. 37,244; Todd A. Lorentz, Reg. No. 39,754; Robin M. Silva, Reg. No. 38,304; Steven M. Freeland, Reg. No. 42,555; and William E. Nuttle, Reg. No. 42,943 provided that if any one of said attorneys ceases being affiliated with the law firm of Flehr Hohbach Test Albritton & Herbert LLP as partner, employee or of counsel, such attorney's appointment as attorney and all powers derived therefrom shall terminate on the date such attorney ceases being so affiliated.

Direct all telephone calls to Aldo J. Test at (650) 494-8700. Address all correspondence to:

Aldo J. Test
FLEHR HOHBACH TEST
ALBRITTON & HERBERT LLP
Suite 3400, Four Embarcadero Center
San Francisco, California 94111-4187

THE BOARD OF TRUSTEES OF THE
LELAND STANFORD JUNIOR UNIVERSITY

Date: 5-5-01

By: Katharine Ku
Katharine Ku
Director, Office of Technology Licensing



RECORDATION FORM COVER SHEET

U.S. DEPARTMENT OF COMMERCE
Patent and Trademark Office

PATENTS ONLY

To the Honorable Assistant Commissioner for Patents and Trademarks. Please record the attached original documents or copy thereof.

1. Name of conveying party(ies): Erik D. Lindskog; Arogyaswami J. Paulraj Additional name(s) of conveying party(ies) attached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	2. Name and address of receiving party(ies): Name: <u>The Board of Trustees of the Leland Stanford Junior University</u> Internal Address: <u>Office of Technology Licensing</u> Street Address: <u>900 Welch Road, Suite 350</u> City: <u>Palo Alto</u> State: <u>CA</u> Zip: <u>68764</u> Additional name(s) & address(es) attached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
3. Nature of Conveyance: <input checked="" type="checkbox"/> Assignment <input type="checkbox"/> Merger <input type="checkbox"/> Security Agreement <input type="checkbox"/> Change of Name <input type="checkbox"/> Other _____ Execution Date: <u>June 7, 2001</u>	

4. Application number(s) or patent number(s): 09/833,543
 If this document is being filed together with a new application, the execution date of the application is: _____

A. Patent Application No.(s) <u>09/833,543</u>	B. Patent No.(s) _____
--	--------------------------------------

Additional numbers attached? ☐ Yes ☒ No

COPY

5. Name and address of party to whom correspondence concerning document should be mailed: Name: <u>Aldo J. Test</u> Internal Address: <u>FLEHR HOHBACH TEST</u> <u>ALBRITTON & HERBERT LLP</u> Street Address: <u>SUITE 3400</u> <u>FOUR EMBARCADERO CENTER</u> City: <u>SAN FRANCISCO</u> State: <u>CA</u> Zip: <u>94111-4187</u>	6. Total number of applications and patents involved: 1 7. Total fee (37 CFR 3.41):.....\$ <u>40.00</u> <input checked="" type="checkbox"/> Enclosed <input type="checkbox"/> Authorized to be charged to deposit account 8. Deposit account number: 06-1300 Please debit any underpayment or credit any overpayment to the above deposit account. Our Order No. <u>A-69116/AJT</u>
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DO NOT USE THIS SPACE

9. Statement and signature.
To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document.

<u>Aldo J. Test</u> Name of Person Signing	 Signature	<u>7/10/01</u> Date
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Total number of pages including cover sheet, attachments and document: [5]

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Do not detach this portion
 Mail documents to be recorded with required cover sheet information to:
Honorable Commissioner of Patents and Trademarks, Box Assignments
Washington, DC 20231

File No. A-69116/AJT

(1031490)

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being sent via U.S. First Class Mail in an envelope addressed to BOX ASSIGNMENTS, Assistant Commissioner for Patents, Washington, D.C. 20231 on July 12, 2001. Signed:
 Kathryn Marley

ASSIGNMENT

WHEREAS, Erik D. Lindskog, resident of Sunnyvale, California, and Arogyaswami J. Paulraj, resident of Stanford, California (hereinafter termed "Inventors") have invented new and useful improvements in a *Time-Reversal Block Transmit Diversity System for Channels with Intersymbol Interference and Method*, and have executed application Serial Number 09/833,543 for a United States Patent which was filed on April 11, 2001, which application claims priority to provisional application Serial No. 60/197,306 filed April 14, 2000, and

WHEREAS, THE BOARD OF TRUSTEES OF THE LELAND STANFORD JUNIOR UNIVERSITY, a body having corporate powers under the laws of the State of California, at Stanford, CA 94305 (hereinafter termed "Assignee,") is desirous of acquiring the entire right, title and interest in and to said application and said invention and improvements thereon, and in and to Letters Patent thereon when granted in the United States and foreign countries; and

WHEREAS, Inventors and Assignee have executed an agreement entitled "Agreement Concerning Rights in Invention."

NOW, THEREFORE, in consideration of the sum of One Dollar (\$1.00) and for other good and valuable consideration received by said Inventors from said Assignee, receipt of which is hereby acknowledged by said Inventors;

1. Said Inventors have sold, assigned, transferred and set over, and do hereby sell, assign, transfer and set over unto said Assignee, all their right, title and interest in, to and under said invention, and in, to and under the application for Letters Patent of the United States therefor executed as aforesaid, and in, to and under any Letters Patent which may be issued for said invention in the United States and in any foreign country including the right to claim priority in all foreign countries including each and every Letters Patent granted on any application which is a division, substitution or continuation of said application specifically identified herein, and in and to each and every reissue or extension of said Letters Patent; said interest hereby assigned to be held and enjoyed by said Assignee as fully as the same would have been held and enjoyed by said Assignee as fully as the same would have been held and enjoyed by said Inventors had this assignment and sale not been made.

2. Said Inventors hereby covenant and agree to cooperate with said Assignee whereby said Assignee may enjoy to the fullest extent the right, title and interest herein conveyed. Such cooperation shall include (a) prompt execution of all papers (prepared at the expense of Assignee) which are deemed necessary or desirable by Assignee to perfect in it the right, title and interest herein conveyed; (b) prompt execution of all petitions, oaths, specifications, declarations or other papers (prepared at the expense of Assignee) which are deemed necessary or desirable by Assignee for prosecuting said application specifically identified herein, for filing and prosecuting substitute, divisional, continuing or additional applications in the United States and/or foreign countries covering said invention and/or improvements, for filing and prosecuting applications for reissuance of Letters Patent included herein, or for interferences (i.e. priority) proceedings involving said invention and/or improvements; and (c) prompt assistance and cooperation in the prosecution of legal proceedings involving said invention and/or improvements, said applications and patents granted thereon, including oppositions, cancellation proceedings, priority contests, public use proceedings and court actions; provided, however, that the expense which may be incurred by said inventors in lending such assistance and cooperation be paid by Assignee.

3. The terms, covenants and conditions of this assignment shall inure to the benefit of said Assignee, its successors, assigns, and/or other legal representatives, and shall be binding upon said Inventors, their respective heirs, legal representatives and assigns.

4. The terms, covenants and conditions of this agreement are subject to the payment of royalty by Assignee to Inventors in accordance with the provisions of said Agreement Concerning Rights in Invention referred to above.

5. Said Inventors do hereby warrant and represent that they have not entered into any assignment, contract or understanding in conflict herewith.

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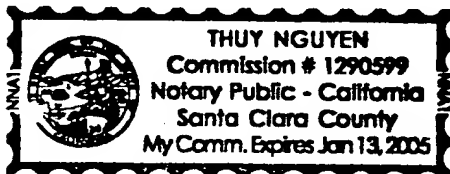
IN WITNESS WHEREOF, said Inventors have executed and delivered this instrument on the date below written.

Dated: June 7, 2001 Erik D. Lindskog
Erik D. Lindskog

State of California]
County of Santa Clara] SS.

On 6/7/01, before me, Thuy Nguyen, Notary Public, personally appeared - Erik D. Lindskog, personally known to me (or proved to me on the basis of evidence) to be the person whose name is subscribed to the within instrument, and acknowledged to me that he executed the same in his authorized capacity, and that by his signature on the instrument, the person or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal.



Dated: 6/7/01

Arogyaswami J. Paulraj
Notary Public
Arogyaswami J. Paulraj

State of California]
County of Santa Clara] SS.

On _____, before me, _____, Notary Public, personally appeared Arogyaswami J. Paulraj, personally known to me (or proved to me on the basis of evidence) to be the person whose name is subscribed to the within instrument, and acknowledged to me that he executed the same in his authorized capacity, and that by his signature on the instrument, the person or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal.

Notary Public

CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT

State of California

County of

Santa Clara

SS.

On

6/7/01

Date

, before me,

Thuy Nguyen, Notary Public

Name and Title of Officer (e.g., "Jane Doe, Notary Public")

personally appeared

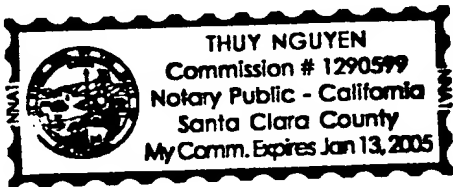
Erik Lindskog

Name(s) of Signer(s)

☒ personally known to me

☐ proved to me on the basis of satisfactory evidence

to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.



Place Notary Seal Above

WITNESS my hand and official seal.

[Signature]

Signature of Notary Public

OPTIONAL

Though the information below is not required by law, it may prove valuable to persons relying on the document and could prevent fraudulent removal and reattachment of this form to another document.

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Title or Type of Document:

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Document Date:

6/7/01

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☐ Partner — ☐ Limited ☐ General

☐ Attorney in Fact

☐ Trustee

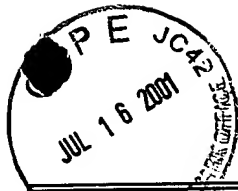
☐ Guardian or Conservator

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Signer Is Representing: _____

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OF SIGNER

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In the United States Patent and Trademark Office

Patent & Trademark Office A-69116/AJT	U.S. Application No. 09/833,543	Filing Date: April 11, 2001
Date Due: August 14, 2001	Date Mailed: July 12, 2001	Express Mail No.:
Applicant: Lindskog et al.		Stanford
Title: Time-Reversal Block Transmit Diversity System For Channels With Intersymbol Interference And Method		
Enclosures: <input checked="" type="checkbox"/> Assignment Recordation Cover Sheet; <input checked="" type="checkbox"/> Executed Assignment; <input checked="" type="checkbox"/> Check in the amount of \$40 for Recordation Fee; <input checked="" type="checkbox"/> Certificate of Mailing and Return Postcard		Official Use Only

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(415) 781-1989**UNION BANK OF CALIFORNIA**1970 Franklin Street
Oakland, CA 94612

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